AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for preparing a specimen for application of microanalysis thereto, the method comprising:

forming an initial conductive layer over ~~an~~ only a localized area of interest, said initial conductive layer formed through a low-energy beam deposition process;

removing a volume of material surrounding said area of interest by forming a pair of trenches in a bulk material having said area of interest formed thereon, thereby forming a membrane including said area of interest and said initial conductive layer over said area of interest; and

removing said membrane from said bulk material.

2. (original) The method of claim 1, wherein said low-energy beam deposition process comprises electron beam deposition.

3. (original) The method of claim 2, wherein said initial conductive layer further comprises at least one of: platinum, tungsten, gold, aluminum, titanium, and combinations thereof.

4. (original) The method of claim 1, wherein said initial conductive layer is formed at a thickness of about 10 nanometers (nm) to about 100 nm.

5. (original) The method of claim 4, wherein said initial conductive layer is formed over an area of about 1 micron by about 10 microns.

6. (original) The method of claim 4, further comprising implementing a high-energy beam deposition process for increasing the thickness of said initial conductive layer.

7. (original) The method of claim 6, wherein said high-energy beam deposition process comprises ion beam deposition.

8. (original) The method of claim 1, wherein said removing a volume of material surrounding said area of interest is implemented by focused ion beam milling.

9. (currently amended) A method for preparing a specimen for application of microanalysis thereto, the method comprising:

forming an initial conductive layer over a defined, localized area of interest on a ~~semiconductor~~ substrate, without blanket coverage of said initial conductive layer on the entire substrate, said initial conductive layer formed through an electron beam deposition process;

removing a volume of substrate material surrounding said area of interest, thereby forming the specimen, including said area of interest and said initial conductive layer over said area of interest; and

removing the specimen from said ~~bulk~~ substrate material.

10. (original) The method of claim 9, wherein the microanalysis comprises tunneling electron microscopy (TEM).

11. (original) The method of claim 10, wherein said initial conductive layer further comprises at least one of: platinum, tungsten, gold, aluminum, titanium, and combinations thereof.

12. (original) The method of claim 9, wherein said initial conductive layer is formed at a thickness of about 10 nanometers (nm) to about 100 nm.

13. (original) The method of claim 12, wherein said initial conductive layer

is formed over an area of about 1 micron by about 10 microns.

14. (original) The method of claim 12, further comprising implementing a high-energy beam deposition process for increasing the thickness of said initial conductive layer.

15. (original) The method of claim 14, wherein said high-energy beam deposition process comprises ion beam deposition.

16. (original) The method of claim 9, wherein said removing a volume of substrate material surrounding said area of interest is implemented by focused ion beam milling.